



*Larry Hogan, Governor*  
*Boyd Rutherford, Lt. Governor*  
*Mark Belton, Secretary*  
*Joanne Throwe, Deputy Secretary*

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November 3, 2015

Justin Bereznak  
Natural Resources Planner  
Maryland Department of the Environment  
Tidal Wetlands Division  
1800 Washington Boulevard  
Baltimore, MD 21230

Mr. Justin Bereznak,

This letter contains Maryland Department of Natural Resources' responses to Maryland Department of the Environment comments and questions concerning the resubmittal of the permit application NAB-2009-61802-M04 on October 23, 2015 to dredge shell from Man-O-War Shoal in Baltimore County.

The Maryland Department of the Environment questions and comments are below in the black text font and Maryland Department of Natural Resources' responses are in red text font.

1. Please provide a cut cross section (fig 1B) as a plan sheet.  
**Please see attached plan.**
2. Please provide an amount for the square feet of cuts and the total yards of cuts proposed.  
**The total estimated acreage to be dredged to obtain 5 million bushels of shell (299,400 cubic yards based on 16.7 Maryland bushels per cubic yard) is 20.7 acres. This converts to 901,692 square feet. The total cubic yards of cuts will be approximately 1 million cubic yards. These estimates are based on the following measurements. Each cut will be no wider than 500 feet. The cut will extend no more than one-third of the distance through the shoal which equates to an average of 233 feet (rounded down to 200 feet to be conservative) based on ten measurements of the shoal using a nautical chart. The depth of the dredge cut will be approximately 30 feet deep based on past upper Bay shell dredging. The rate of return for shells based on past shell dredging in the upper Bay is between 33% and 40% (rounded down to 30% to be conservative). Therefore, an average cut is 111,111 cubic yards, yielding about 33,333 cubic yards of shell based on a 30% return. At 33,333 cubic yards per cut, 9 cuts will be made to obtain 5 million bushels of shell (299,400 cubic yards).**

**Average cubic yards per dredge cut =  $(500' * 200' * 30') / 27 = 111,111$**

**Average cubic yards of shell per dredge cut =  $111,111 * 0.30 = 33,333$**

**Estimated number of dredge cuts needed =  $299,400 / 33,333 = 9$**

**Estimated acreage to be dredged =  $(500' * 200') * 9 \text{ cuts} = 900,000 \text{ sqft} = 20.7 \text{ acres}$**

**Estimated total cubic yards to be dredged =  $9 * 111,111 = 999,999$  (or 1 million cubic yards)**

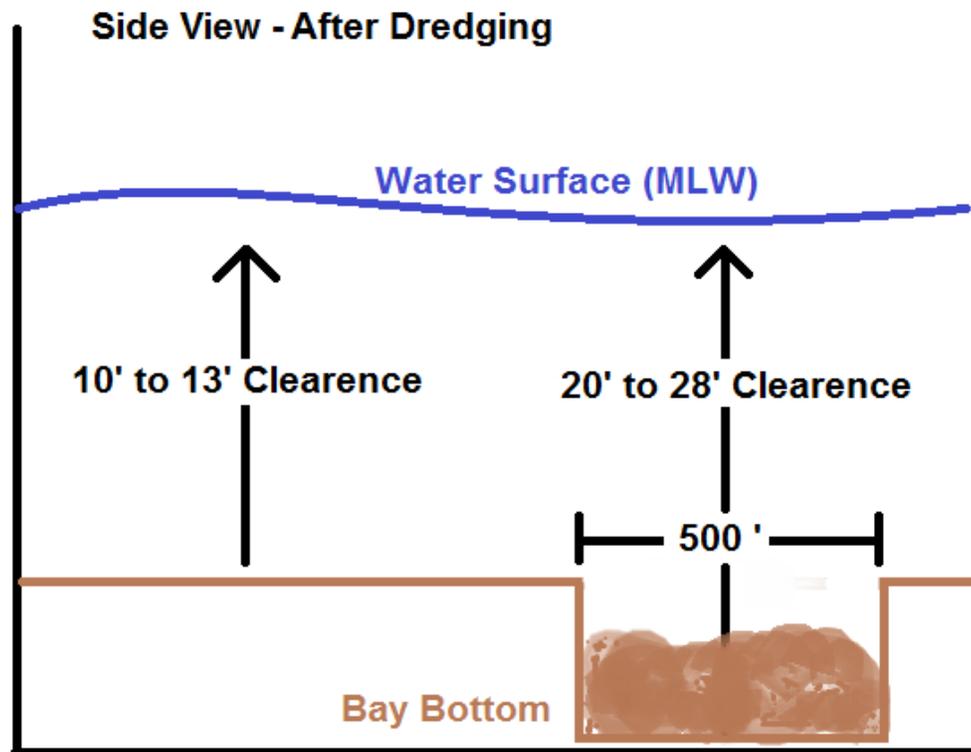
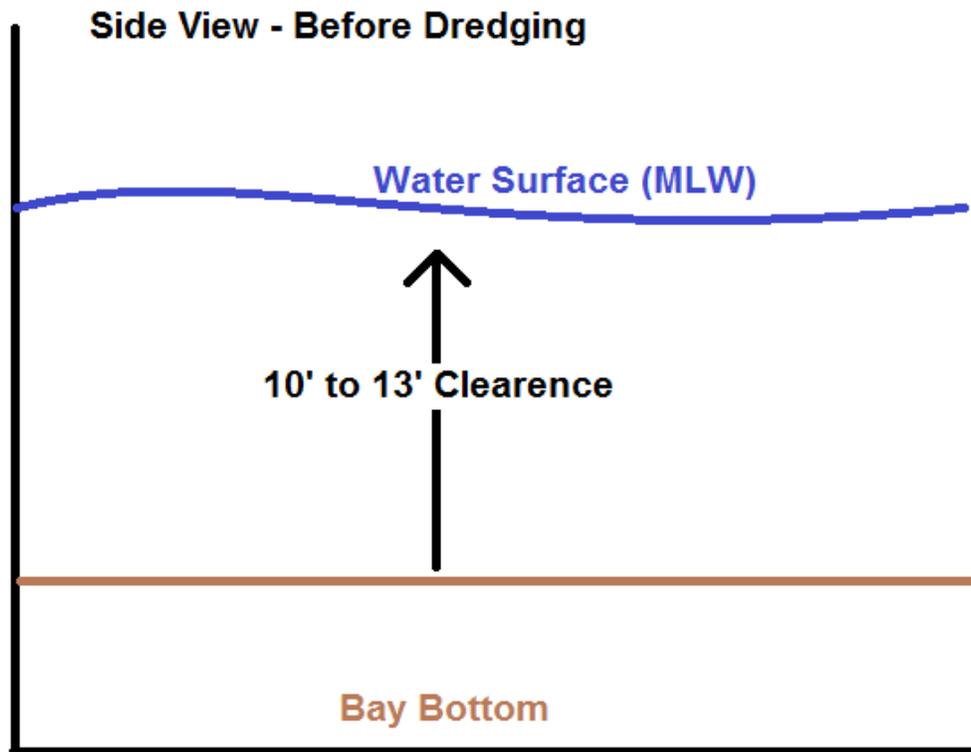
3. Please provide a cross section for the proposed shell emplacement (fig 14) as a plan sheet.  
**Please see attached plan.**
4. Please provide the maximum amount of bottom substrate (acres) to be planted with shell and also provide a total for how many cubic yards of shell will be emplaced within state waters.  
**The maximum amount of bottom substrate (acres) that could be planted within state waters from the five million bushels of shell is 2,233 acres (see table 12 in the permit application attachment 1). The five million bushels of shell that are proposed to be dredged equals 299,400 cubic yards (based on 16.7 Maryland bushels per cubic yard).**
5. Please provide the plan view of the cut locations (fig 1A) as a plan sheet.  
**Please see attached plan.**
6. Please provide plans sheets for the location(s) of shell emplacement. This will be required to place the project on public notice.  
**The shell planting locations will be a combination of natural and historic oyster bars. The plan sheets for these in-water planting locations can be found in Attachment 2a and 2b of the permit application. Additionally, some of the shells will be taken to on-land shell stockpile sites. After on-land storage the shells will be planted in the Bay as described above. The on-land stockpile locations will include:**
  - Love Point, MD Love Point Site (400 Pier Ave, Stevensville, MD 21666)
  - Grasonville, MD Queen Anne County Transfer Station (401 Gravel Run Road, Grasonville, MD 21638)
  - Cambridge, MD University of Maryland, Horn Point Laboratory (2020 Horns Point Road Cambridge, MD 21613)
  - Crisfield, MD Property leased by Maryland Department of Natural Resources (Wellington Road, Crisfield MD 21817)
  - Baltimore, MD Site to be determined
7. Please complete and return the attached public notice billing form.  
**Please see the attached billing form.**

Please feel free to contact Chris Judy, director of the Shellfish Program at Maryland Department of Natural Resources, with any questions or comments about these responses via email at [chris.judy@maryland.gov](mailto:chris.judy@maryland.gov) or phone at 410-260-8259.

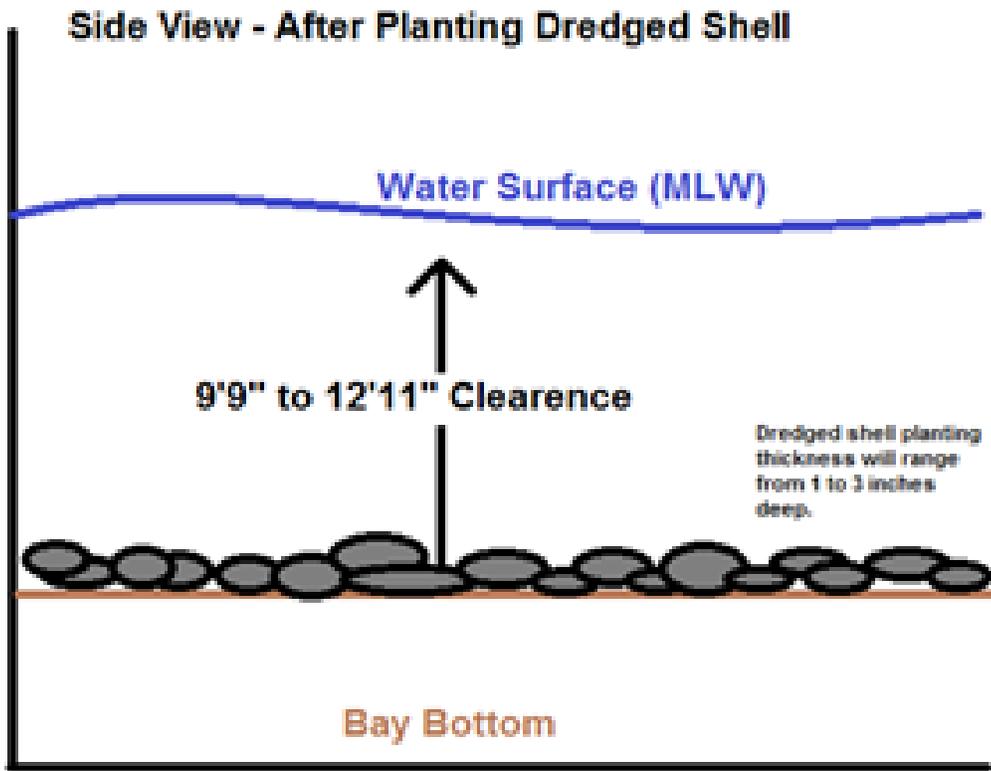
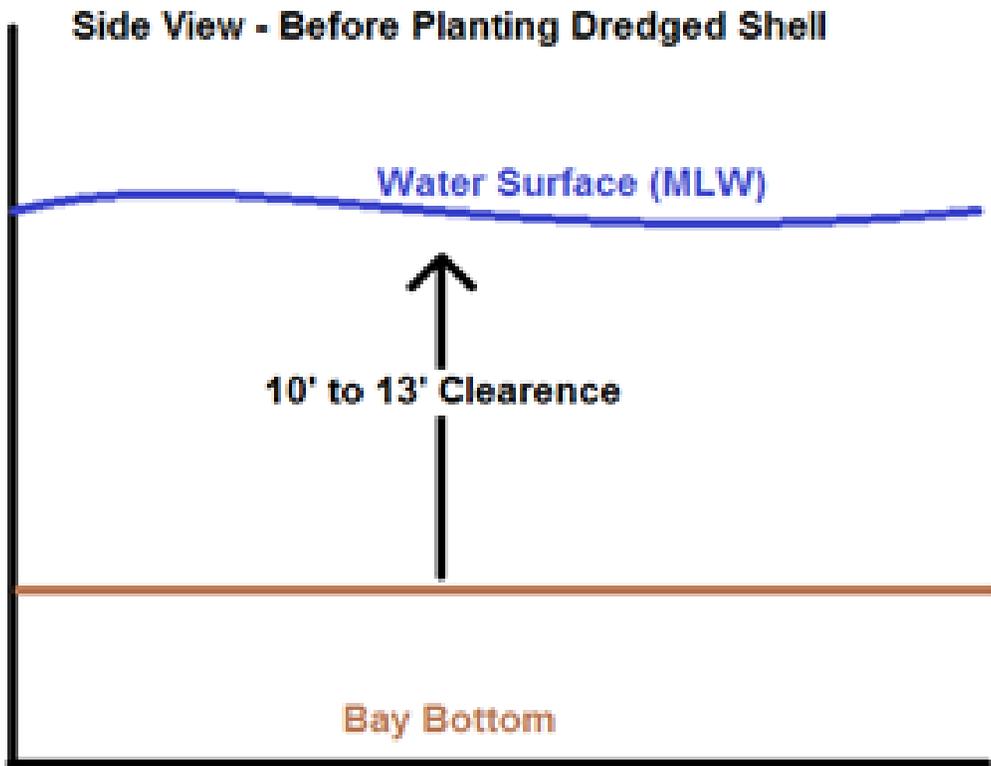
Sincerely,

Chris Judy  
Director of the Shellfish Program  
Maryland Department of Natural Resources  
580 Taylor Avenue - B2  
Annapolis, MD 21401

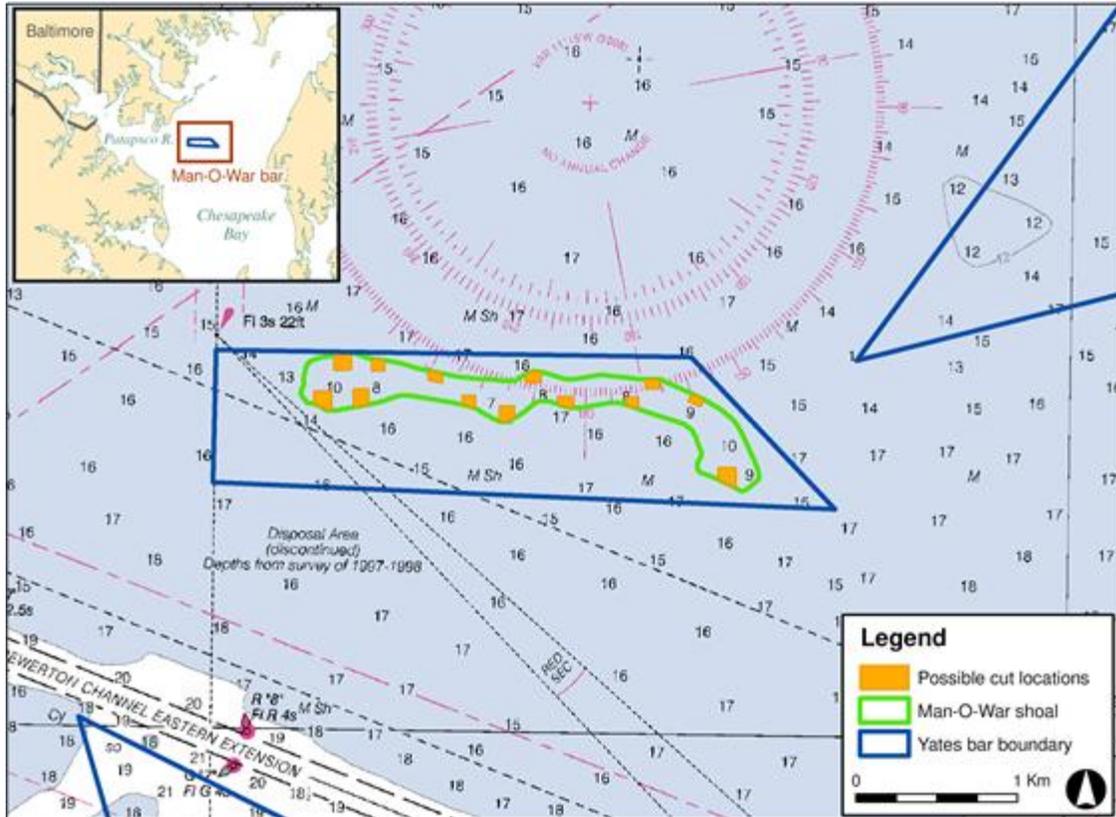
A typical cross section of the proposed dredge cuts to be made at Man-O-War shoal



A typical cross section of planting dredged shell in Maryland using dredged Man-O-War Shoal shell



The location and general shape of Man-O-War shoal. Dark lines indicate the boundaries of oyster bars mapped by Yates (1911). Yellow rectangles within the outline of the shoal illustrate the types of cuts anticipated as shell is removed by dredging along the perimeter.



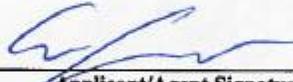
Public Notice Billing Form

Department of the Environment  
Water Management Administration  
Tidal Wetlands Division  
1800 Washington Boulevard  
Baltimore, Maryland 21230  
(410) 537-3837

"A Commitment to Excellence in Managing Maryland's Water Resources"

PUBLIC NOTICE BILLING APPROVAL FORM

I agree to pay all expenses associated with the publishing of a public notice for the wetland application of Eric Campbell, Dept of Natural Resources (Applicant's Name) which is dated 10/28/2015.

  
Applicant/Agent Signature

Eric Campbell  
Printed Name of Signee

Billing Address: Maryland Department of Natural Resources  
Fisheries Service, Shellfish Program  
580 Taylor Ave - B2  
Annapolis MD 21401

Telephone Number: 410-760-8261

Please provide the names and mailing addresses of the adjacent property owners:

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